

Title (en)

METHOD AND SYSTEM FOR X-RAY BACKSCATTER INSPECTION OF ADDITIVE MANUFACTURED PARTS

Title (de)

VERFAHREN UND SYSTEM ZUR RÖNTGENSTRAHLRÜCKSTREUUNGSPRÜFUNG VON GENERATIV GEFERTIGTEN TEILEN

Title (fr)

PROCÉDÉ ET SYSTÈME D'INSPECTION PAR RÉTRODIFFUSION DE RAYONS X DE PIÈCES FABRIQUÉES DE MANIÈRE ADDITIVE

Publication

EP 3323617 B1 20220216 (EN)

Application

EP 17200120 A 20171106

Priority

US 201615344677 A 20161107

Abstract (en)

[origin: EP3323617A1] A method (400) for inspection of additive manufactured parts (140) and monitoring operational performance of an additive manufacturing apparatus (100) is provided. The method (400) includes a step of obtaining (430), in real-time during an additively manufactured build process, a backscatter x-ray scan of an area of a build platform (112). The build platform (112) is configured for supporting at least one part (140) during the build process. An evaluating step (440) evaluates, by a processor (602), the backscatter x-ray scan. A determining step (450) determines, based on the evaluating (440), whether an operational flaw with the additive manufacturing apparatus has occurred or a defect (201, 202, 203, 204, 205, 206) in the at least one part has occurred. A backscatter x-ray system (160) has an emitter (161) that emits x-rays and a detector (162) that receives backscattered x-rays. The emitter (161) and detector (162) are located on a movable support (163) located above the build platform (112), and the movable support (163) raises and lowers the emitter (161) and detector (162) with respect to the build platform (112).

IPC 8 full level

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CPC (source: EP US)

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Citation (examination)

EP 1634694 A2 20060315 - 3D SYSTEMS INC [US]

Cited by

US2021252791A1; EP3560635A1; FR3096296A1; EP3643481A1; EP3568251A4; US11292198B2; US11532760B2; US11117195B2; WO2020011730A1; WO2018217646A1; WO2019238429A1; WO2020234312A1; EP3831577A1; FR3104057A1; WO2023088597A1

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